

What Is Claimed Is

~~Patent Claims~~

Add A2

1. A tunable interferometer (10), in particular for the measurement of optical surfaces, having at least one light source, a reference surface (40) and a test object (50), and at least one beam splitter (30), characterized by an apparatus (60, 70) for the polarization of the interference beams such that, at the output of the interferometer (10), they have different polarization states relative to each other; and an analyzer (80), disposed at the output of the interferometer (10), with a polarization state, variable in predetermined manner, for tuning the interferometer (10).
2. The interferometer as recited in Claim 1, characterized in that the interferometer (10) is a two-beam interferometer; that linearly polarized light is present at the input of the interferometer; and that the polarization apparatus includes a first  $\lambda/4$  retardation plate (60), allocated to the reference surface or to the test object, and a second  $\lambda/4$  retardation plate (70), positioned before the analyzer (80).
3. The interferometer as recited in Claim 1 or 2, characterized in that the analyzer (80) is a rotatable linear analyzer.
4. The interferometer as recited in Claim 1 or 2, characterized in that the analyzer (80) includes an electrically tunable liquid-crystal element with a linear polarizer.

5. The interferometer as recited in one of Claims 1 through 4, <sup>A</sup> characterized in that the analyzer (80) is arranged physically separate from the interferometer (10).